

What is claimed is:

1. A device for inserting, controllably releasing and accurately positioning a folded intra-ocular lens into an eye comprising:

a plunger rod assembly in communication with an inserter housing, said inserter housing adapted to house an intra-ocular lens;

a first drive mechanism for providing contact between and causing lateral movement of said plunger rod assembly and said intra-ocular lens within said inserter housing; and

a latch pin and a latch finger configured for engagement with said latch pin for preventing proximal lateral movement of said plunger rod assembly so that said intra-ocular lens may be accurately positioned within said eye.

2. The device of claim 1, wherein said plunger rod assembly further comprises a push rod and a helical compression spring in biasing relation to said push rod.

3. The device of claim 2 wherein said plunger rod assembly further comprises a barrel within which said push rod is slideable, wherein said barrel has a proximal part and said push rod has a proximal part having a slide disc disposed thereon and said helical compression spring is slideable along said rod proximal part between said barrel proximal part and said slide disc.

4. The device of claim 3 further comprising a transversely projecting finger support secured to said barrel.

5. The device of claim 3, wherein said plunger rod assembly further comprises a knob having external threads rotatably secured to said push rod, wherein

said barrel comprises inwardly projecting pins and wherein said external threads cooperate with said inwardly projecting pins.

6. The device of claim 1, wherein said plunger rod assembly further comprises a barrel within which said push rod is slideable, said barrel further comprising a slot and wherein said latch finger is carried on said barrel and centered over said slot and said latch pin is carried by said push rod.

7. The device of claim 6, wherein said plunger rod assembly further comprises a knob having external threads rotatably secured to said push rod, wherein said barrel comprises inwardly projecting pins and wherein said external threads cooperate with said inwardly projecting pins.

8. The device of claim 7 wherein the axial extent of said external threads along said knob is limited and said external threads thereby cooperate with said inwardly projecting pins over a limited distance.

9. The device of claim 6, wherein said latch finger comprises a ramp and a notched segment which is engageable with said latch pin.

10. The device of claims 1 further comprising a cartridge housed within said inserter housing, said cartridge having a folded intra-ocular lens positioned therein.

11. The device of claim 1 wherein said plunger rod assembly further comprises a barrel within which said push rod is slideable, wherein said barrel has a distal portion and wherein the device further comprises a cartridge having a folded intra-ocular lens positioned therein, wherein said cartridge is fitted into said distal portion of said barrel.

12. The device of claim 11 wherein said barrel has an interior bore and an exterior and said distal portion of said barrel has an axial slot communicating between

said interior bore and said exterior and said bore allows said cartridge to be inserted downward into said bore of said barrel.

13. A device for inserting, controllably releasing and accurately positioning a folded intra-ocular lens into an eye comprising:

a barrel having a proximal portion, a distal portion having an axial slot, and an interior bore;

a push rod having a proximal part and a slide disc disposed thereon, said push rod slideable within said bore of said barrel;

a helical compression spring slideable along said proximal part of said rod between said proximal part of said barrel and said slide disc;

a cartridge having a folded intra-ocular lens positioned therein, wherein said cartridge is fitted into said axial slot on said distal portion of said barrel;

a first drive mechanism for providing contact between and causing lateral movement of said push rod and said intra-ocular lens within said lens cartridge; and

a latch pin and a latch finger configured for engagement with said latch pin for preventing proximal lateral movement of said push rod so that said intra-ocular lens may be accurately positioned within said eye.

14. The device of claim 13 further comprising a transversely projecting finger support secured to said barrel.

15. The device of claim 13, wherein said push rod further comprises a knob having external threads rotatably secured to said proximal part of said push rod, said barrel comprises inwardly projecting pins and wherein said external threads cooperate with said inwardly projecting pins.

16. The device of claim 15, wherein the axial extent of said external threads along said knob is limited and said external threads thereby cooperate with said inwardly projecting pins over a limited distance.

17. The device of claim 13, wherein said latch finger is carried on said barrel and centered over said slot and said latch pin is carried by said push rod.

18. The device of claim 13, wherein said latch finger comprises a ramp and a notched segment which is engageable with said latch pin.

19. A method of inserting an intra-ocular lens into an eye comprising:

providing an insertion device comprising a plunger rod assembly, an inserter housing and a control knob assembly;

providing a cartridge having a folded intra-ocular lens positioned therein;

loading said cartridge into said inserter housing;

actuating said control knob assembly to couple a distal end of said plunger rod assembly with said intra-ocular lens;

inserting a distal end of said cartridge into said eye;

applying a force to said control knob assembly to move said intra-ocular lens through said cartridge and partially eject said intra-ocular lens from said cartridge;

actuating a latch and pin mechanism of said plunger rod assembly and removing said force to said control knob assembly without causing movement of said plunger rod assembly;

positioning said intra-ocular lens in said eye;

applying a force to said control knob assembly to eject said intra-ocular lens into said eye; and

removing said distal end of said cartridge from said eye.

20. The method of claim 19 further comprising the step of biasing said plunger rod assembly against forward travel.

21. The method of claim 19 further comprising releasing said latch and pin mechanism of said plunger rod assembly.

22. A mechanism for releasably locking an intra-ocular lens insertion device comprising: a latch finger and a latch pin located on an inserter housing and a plunger rod assembly of said insertion device; wherein said latch finger and said latch pin are configured for releasable locking engagement to prevent involuntary retraction of said plunger rod assembly during use of said insertion device.

23. A method for controllably positioning and releasing an intra-ocular lens from an insertion device comprising:

applying pressure on said insertion device to advance said intra-ocular lens through said insertion device;

maintaining pressure on said insertion device until said intra-ocular lens projects from a distal end of said insertion device;

advancing a plunger rod assembly of said insertion device so that a leading edge of a latch pin on said plunger rod assembly engages an angled tip of a latch finger on a housing of said device, thereby locking said insertion device to prevent retraction of said intra-ocular lens;

releasing pressure on said insertion device;

positioning said intra-ocular lens in a patient's eye;

further advancing said plunger rod assembly so that said latch finger disengages from said latch pin, thereby unlocking said insertion device; and

releasing said intra-ocular lens into said patient's eye.